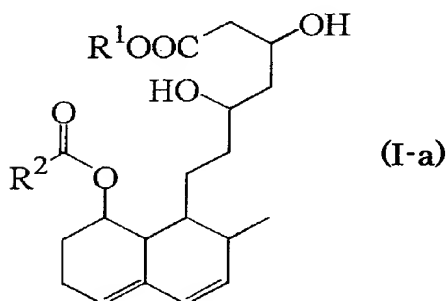


CLAIMS

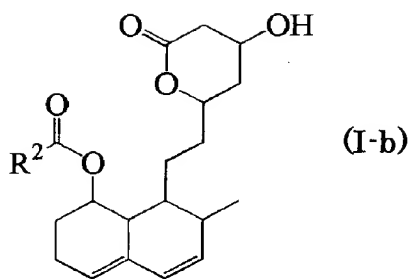
1. A process for producing a compound (II-a) or a compound (II-b) wherein a microorganism having an activity of producing compound (II-a) or a compound (II-b) from a compound (I-a) or a compound (I-b), having no ability to sporulate and showing no hyphal growth, a culture of said microorganism, or a treated product of said culture is used as an enzyme source, and the process comprises: allowing the compound (I-a) or the compound (I-b) to exist in an aqueous medium; allowing the compound (II-a) or the compound (II-b) to be produced and accumulated in said aqueous medium; and collecting the compound (II-a) or the compound (II-b) from said aqueous medium, and wherein the compound (I-a) is a compound represented by the formula (I-a) (herein referred to as compound (I-a)) :



wherein

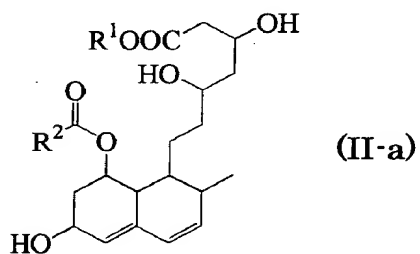
R¹ represents a hydrogen atom, a substituted or unsubstituted alkyl, or an alkali metal, and R² represents a substituted or unsubstituted alkyl, or a substituted or unsubstituted aryl;

the compound (I-b) is a lactone form of compound (I-a) represented by the formula (I-b) (herein referred to as compound (I-b)):



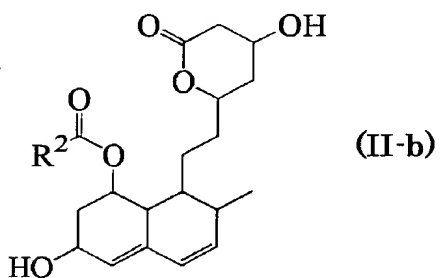
wherein R² has the same definition as the above;

the compound (II-a) is a compound represented by the formula (II-a) (herein referred to as compound (II-a)):



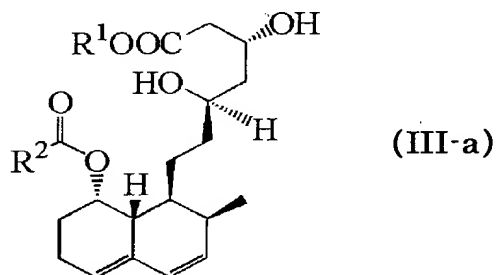
wherein R¹ and R² have the same definitions as the above; and

the compound (II-b) is a lactone form of compound (II-a) represented by the formula (II-b) (herein referred to as compound (II-b)):



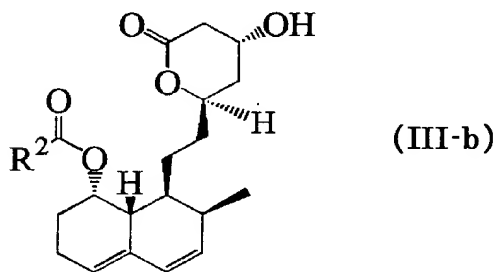
wherein R² has the same definition as the above.

2. The process according to claim 1, wherein the compound (I-a) is a compound represented by the formula (III-a) (herein referred to as compound (III-a)):



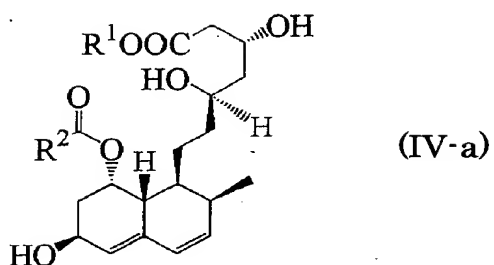
wherein R¹ represents a hydrogen atom, a substituted or unsubstituted alkyl, or an alkali metal, and R² represents a substituted or unsubstituted alkyl, or a substituted or unsubstituted aryl;

the compound (I-b) is a compound represented by the formula (III-b) (herein referred to as compound (III-b)):



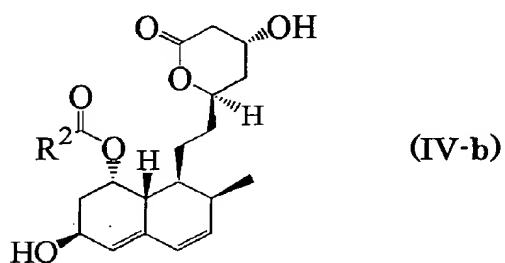
wherein R² has the same definition as the above;

the compound (II-a) is a compound represented by the formula (IV-a) (herein referred to as compound (IV-a)):



wherein R^1 and R^2 have the same definitions as the above; and

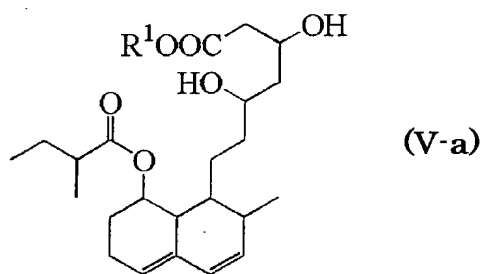
the compound (II-b) is a compound represented by the formula (IV-b) (herein referred to as compound (IV-b)):



wherein R^2 has the same definition as the above.

3. The process according to claim 1, wherein

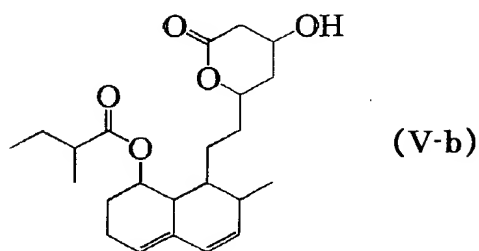
the compound (I-a) is a compound represented by the formula (V-a) (herein referred to as compound (V-a)):



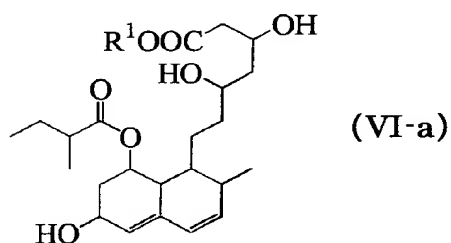
wherein R^1 represents a hydrogen atom, a substituted or unsubstituted alkyl, or an alkali metal;

the compound (I-b) is a compound represented by the formula (V-b)(herein referred to

as compound (V-b));

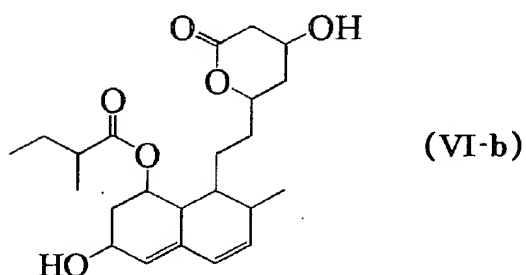


the compound (II-a) is a compound represented by the formula (VI-a) (herein referred to as compound (VI-a)):



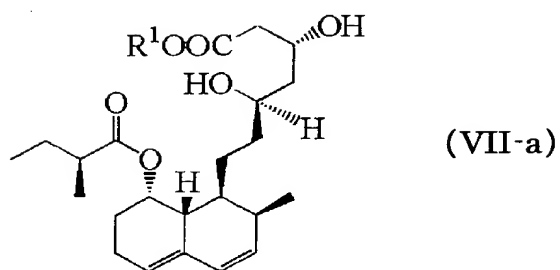
wherein R^1 has the same definition as the above; and

the compound (II-b) is a compound represented by the formula (VI-b) (herein referred to as compound (VI-b)):



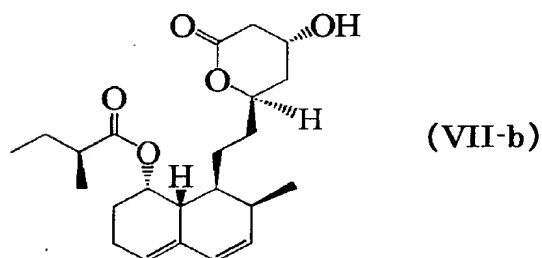
4. The process according to claim 1, wherein

the compound (I-a) is a compound represented by the formula (VII-a) (herein referred to as compound (VII-a)):

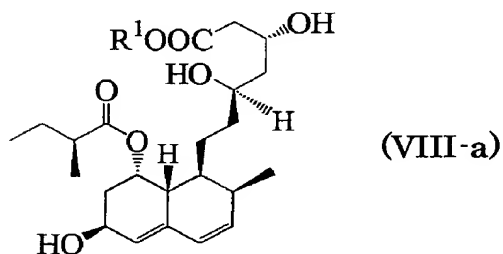


wherein R^1 represents a hydrogen atom, a substituted or unsubstituted alkyl, or an alkali metal;

the compound (I-b) is a compound represented by the formula (VII-b) (herein referred to as compound (VII-b)):



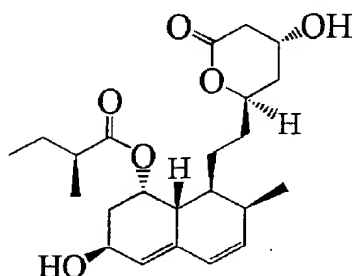
the compound (II-a) is a compound represented by the formula (VIII-a) (herein referred to as compound (VIII-a)):



wherein R^1 has the same definition as the above; and

the compound (II-b) is a compound represented by the formula (VIII-b) (herein referred

to as compound (VIII-b)):



(VIII-b)

5. The process according to claim 1, wherein the treated product of the culture of the microorganism is a treated product selected from cultured cells; treated products such as dried cells, freeze-dried cells, cells treated with a surfactant, cells treated with an enzyme, cells treated by ultrasonication, cells treated by mechanical milling, cells treated by solvent; a protein fraction of a cell; and an immobilized products of cells or treated cells.

6. The process according to claim 1, wherein the microorganism is selected from those belonging to the genus *Mycobacterium*, *Corynebacterium*, *Brevibacterium*, *Rhodococcus*, *Gordona*, *Arthrobacter*, *Micrococcus*, *Cellulomonas* and *Sphingomonas*.

7. The process according to claim 1, wherein the microorganism is one selected from *Mycobacterium phlei*, *Mycobacterium smegmatis*, *Mycobacterium thermoresistibile*, *Mycobacterium neoaurum*, *Mycobacterium parafortuitum*, *Mycobacterium gilvum*, *Rhodococcus globerulus*, *Rhodococcus equi*, *Rhodococcus erythropolis*, *Rhodococcus rhodochrous*, *Rhodococcus rhodnii*, *Rhodococcus ruber*, *Rhodococcus coprophilus*, *Rhodococcus fascians*, *Gordona amarae*, *Gordona rubropertinctus*, *Gordona bronchialis*, *Gordona sputi*, *Gordona aichiensis*, *Gordona terrae*, *Corynebacterium glutamicum*, *Corynebacterium mycetoides*, *Corynebacterium variabilis*, *Corynebacterium ammoniagenes*, *Arthrobacter crystallopoietes*, *Arthrobacter duodecadis*, *Arthrobacter ramosus*, *Arthrobacter sulfureus*, *Arthrobacter aurescens*,

Arthrobacter citreus, *Arthrobacter globiformis*, *Brevibacterium acetylicum*,
Brevibacterium linens, *Brevibacterium incertum*, *Brevibacterium iodinum*, *Micrococcus*
luteus, *Micrococcus roseus*, *Cellulomonas cellulans*, *Cellulomonas cartae*,
Sphingomonas paucimobilis, *Sphingomonas adhaesiva*, and *Sphingomonas terrae*.

8. The process according to claim 1, wherein the microorganism is one selected from
Mycobacterium phlei JCM5865, *Mycobacterium smegmatis* JCM5866, *Mycobacterium*
thermoresistibile JCM6362, *Mycobacterium neoaurum* JCM6365, *Mycobacterium*
parafortuitum JCM6367, *Mycobacterium gilvum* JCM6395, *Rhodococcus globerulus*
ATCC25714, *Rhodococcus equi* (ATCC21387), *Rhodococcus equi* (ATCC7005),
Rhodococcus erythropolis ATCC4277, *Rhodococcus rhodochrous* ATCC21430,
Rhodococcus rhodochrous ATCC13808, *Rhodococcus rhodnii* ATCC35071,
Rhodococcus ruber JCM3205, *Rhodococcus coprophilus* ATCC29080, *Rhodococcus*
fascians ATCC12974, *Rhodococcus fascians* ATCC35014, *Gordona amarae*
ATCC27808, *Gordona rubropertinctus* IFM-33, *Gordona rubropertinctus* ATCC14352,
Gordona bronchialis ATCC25592, *Gordona sputi* ATCC29627, *Gordona aichiensis*
ATCC33611, *Gordona terrae* ATCC25594, *Corynebacterium glutamicum* ATCC13032,
Corynebacterium glutamicum ATCC14020, *Corynebacterium glutamicum* ATCC19240,
Corynebacterium mycetoides ATCC21134, *Corynebacterium variabilis* ATCC15753,
Corynebacterium ammoniagenes ATCC6872, *Arthrobacter crystallopoietes*
ATCC15481, *Arthrobacter duodecadis* ATCC13347, *Arthrobacter ramosus* ATCC13727,
Arthrobacter sulfureus ATCC19098, *Arthrobacter aurescens* ATCC13344, *Arthrobacter*
citreus ATCC11624, *Arthrobacter globiformis* ATCC8010, *Brevibacterium acetylicum*
ATCC953, *Brevibacterium linens* ATCC19391, *Brevibacterium linens* ATCC9172,
Brevibacterium incertum ATCC8363, *Brevibacterium iodinum* (IFO3558), *Micrococcus*
luteus ATCC4698, *Micrococcus roseus* ATCC186, *Cellulomonas cellulans* ATCC15921,
Cellulomonas cartae ATCC21681, *Sphingomonas paucimobilis* ATCC29837,
Sphingomonas adhaesiva JCM7370, and *Sphingomonas terrae* ATCC15098.

9. The process according to claim 1, wherein the microorganism is *Gordona* sp. ATCC19067.

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